

1.0 INTRODUCTION

This “Los Alamos National Laboratory Technical Area 54 Part B Permit Renewal Application” is submitted to address the New Mexico Administrative Code, Title 20, Chapter 4, Part 1 (20.4.1 NMAC), revised June 14, 2000 [6-14-00], requirements specific to hazardous and mixed waste container storage operations at Technical Area (TA) 54. This document serves as Revision 3.0 to previous applications submitted to the New Mexico Environment Department (NMED) in January 1999 (Revision 0.0; Los Alamos National Laboratory [LANL], 1999a), September 1999 (Revision 0.1; LANL, 1999b), December 1999 (Revision 1.0; LANL, 1999c), and December 2000 (Revision 2.0; LANL, 2000a), and includes revisions presented in the “Response to Notice of Deficiency: TA-54 Part B RCRA Permit Application; September 1999, Revision 0.1; December 2000, Revision 2.0; Los Alamos National Laboratory EPA ID# NM0890010515,” submitted to the NMED in July 2002 (LANL, 2002a). Each application was prepared to be consistent with the permitting strategy outlined by the NMED Hazardous and Radioactive Materials Bureau (HRMB) in correspondence dated February 5, 1998.

As presented in that correspondence, TA-specific permit applications, permit modification requests, and permit renewal applications would include any details and/or requirements not addressed in the “Los Alamos National Laboratory General Part B Permit Application,” Revision 1.0 (LANL, 1998a). The most recent version of that document, hereinafter referred to as the LANL General Part B, complements this permit renewal application. Certain portions of the LANL General Part B will serve in the operating permit as “umbrella” documents, covering the requirements of the New Mexico Hazardous Waste Act and implementing regulations, specifically 20.4.1 NMAC [6-14-00], common to all TAs. Together, information provided in this application and in the LANL General Part B will meet the applicable Part B requirements specified in 20.4.1 NMAC, Subparts V and IX [6-14-00].

In accordance with HRMB’s 1998 permitting strategy, LANL submitted the “Los Alamos National Laboratory General Part A Permit Application,” Revision 0.0 (LANL, 1998b). That Part A consolidated information from previous site-wide and TA-specific Part A submittals into one comprehensive document, identifying all hazardous and mixed waste treatment, storage, and disposal facilities at LANL subject to 20.4.1 NMAC, Subparts V, VI, and IX [6-14-00] at that time. The Part A was subsequently revised and submitted to the NMED in November 1999 (Revision 1.0; LANL, 1999d), July 2000 (Revision 2.0; LANL, 2000b), and August 2002 (Revision 3.0; LANL,

2002b). The most recent version of that document, hereinafter referred to as the LANL General Part A, serves as a companion document to the LANL General Part B and TA-specific permit applications, permit modification requests, and permit renewal applications, including this TA-54 Part B permit renewal application.

In the LANL General Part A, the LANL General Part B, and this permit renewal application, a unit to be permitted may sometimes be referred to as a “facility.” The term “facility,” as it appears in this context, is used only to denote building names and does not imply the regulatory meaning of “facility” as defined in 20.4.1 NMAC §260.10 [6-14-00]. However, pursuant to 20.4.1 NMAC §260.10 [6-14-00], the LANL facility as a whole does meet the regulatory definition of a facility.

This permit renewal application also includes the closure/post-closure plans for the Area L and Area G disposal units regulated as landfills. These plans, presented as Attachments H and I herein, were originally submitted to the NMED in April 2002 (LANL, 2002c; LANL, 2002d). The closure/post-closure plan for Area L addresses Shafts 1, 13-17, and 19-34 and Impoundments B and D. The closure/post-closure plan for Area G addresses Pit 29 and Shaft 124. In addition, Attachment J included in this permit renewal application is the compliance demonstration document for Material Disposal Area H, which was also submitted to the NMED in April 2002 (LANL, 2002e). LANL is not seeking operating permitted status for any of those waste management units.

Table 1-1 provides a list of regulatory references and the corresponding location in the permit renewal application, as appropriate. Where applicable, regulatory citations in this document reference 20.4.1 NMAC, which adopts, with few exceptions, all of the Code of Federal Regulations, Title 40, Parts 260 to 266, Part 268, and Part 270.

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(1)	General facility description	Attachment A ^a (A.1)
§270.14(b)(2)	Chemical and physical analyses	Attachment B ^a
§270.14(b)(3)	Waste analysis plan	Attachment B ^a
§264.13(b)	Development and implementation of waste analysis plan	Attachment B ^a
§264.13(c)	Off-site waste analysis requirements	Attachment B ^a
§270.14(b)(4)	Security procedures and equipment	Attachment G (G.1.2, G.2.1, G.3.1, G.4.1)
§264.14	Security	Attachment G (G.1.2, G.2.1, G.3.1, G.4.1)
§270.14(b)(5)	General inspection requirements	2.7, Attachment C ^a
§264.15(b)	General inspection requirements	2.7, Attachment C ^a
§264.174	Container inspections	2.7, Attachment C ^a
§264.193(i)	Tank inspections	NA ^b
§264.195	Overfill control inspections	NA
§264.226	Surface impoundments monitoring and inspection	NA
§264.254	Waste pile monitoring and inspection	NA
§264.273	Land treatment design and operating requirements	NA
§264.303	Landfill monitoring and inspection	Attachments H and I
§264.347	Incinerator monitoring and inspection	NA
§264.602	Miscellaneous units	NA
§264.1033	Process vent standards	NA
§264.1052	Equipment leak air emission standards	NA
§264.1053	Compressor standards	NA
§264.1058	Standards for pumps, valves, pressure relief devices, flanges and connections	NA
§264.1088	Subpart CC inspection and monitoring requirements	Attachment C (C.2), Attachment G (G.1.6)
§270.14(b)(6)	Request for waiver from preparedness and prevention requirements of 264 Subpart C	NA

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(7)	Contingency plan requirements under 264 Subpart D	Attachment E ^a
§264, Subpart D	Contingency plan and emergency procedures	Attachment E ^a
§264.227	Surface impoundment emergency repairs; contingency plans	NA
§264, Subpart C	Preparedness and prevention	Attachment G (G.1.3, G.2.2, G.3.2, G.4.2)
§270.14(b)(8)	Preparedness and prevention	Attachment G (G.1.3, G.2.2, G.3.2, G.4.2)
§270.14(b)(8)(i)	Prevention of hazards in unloading operations (ramps and special forklifts)	Attachment G (G.1.4.1)
§270.14(b)(8)(ii)	Runoff prevention with berms, trenches, and dikes	2.10, Attachment G (G.1.4.2)
§270.14(b)(8)(iii)	Prevention of contamination of water supplies	Attachment G (G.1.4.3)
§270.14(b)(8)(iv)	Mitigation effects of equipment failure and power outages	Attachment G (G.1.4.4, G.2.3, G.3.3, G.4.3)
§270.14(b)(8)(v)	Prevention of undue exposure of personnel by use of personal protective equipment	Attachment G (G.1.4.5)
§270.14(b)(8)(vi)	Prevention of release to the atmosphere	Attachment G (G.1.4.6)
§270.14(b)(9)	Prevention of accidental ignition or reaction	2.8 ^a , Attachment G (G.1.5)
§264.17	General requirements for ignitable, reactive, or incompatible wastes	2.8, Attachment G (G.1.5)
§264.17(c)	Documentation of compliance with 264.17 (general requirements for ignitable, reactive, or incompatible wastes)	2.8 ^a , Attachment G (G.1.5)
§270.14(b)(10)	Traffic pattern, volume, and controls	Attachment A ^a (A.2)
	Identification of turn lanes	Attachment A
	Identification of traffic/stacking lanes	Attachment A
	Description of road surface	Attachment A ^a (A.2)
	Description of road load-bearing capacity	Attachment A ^a (A.2)

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
	Identification of type and number of traffic controls	Attachment A (A.2)
§264.18	Location standards	Attachment A (A.3)
§270.14(b)(11)	Facility/unit location information	Attachment A (A.3)
§270.14(b)(11)(i)	Seismic standard applicability [264.18(a)]	Attachment A (A.3)
§270.14(b)(11)(ii)	Seismic standard requirements	Attachment A (A.3)
§270.14(b)(11)(ii)(A)	No fault within 3,000 feet (ft) with displacement in Holocene time	NA
§270.14(b)(11)(ii)(A)(1)	Published geological studies	NA
§270.14(b)(11)(ii)(A)(2)	Aerial reconnaissance of a five-mile radius from the facility	NA
§270.14(b)(11)(ii)(A)(3)	Analysis of aerial photographs covering 3,000-ft radius from the facility/unit	NA
§270.14(b)(11)(ii)(A)(4)	Reconnaissance based on walking portions of the area within 3,000 ft of the facility	NA
§270.14(b)(11)(ii)(B)	If faults which have displacement in Holocene time are present within 3,000 ft, no faults pass within 200 ft of portions of the facility where treatment, storage, or disposal will be conducted	NA
§270.14(b)(11)(iii)	100-year floodplain standard	Attachment A ^a (A.3)
§270.14(b)(11)(iv)	If facility is within 100-year floodplain	NA
§270.14(b)(11)(iv)(A)	Engineering analyses of hydrostatic forces expected in a 100-year flood	NA
§270.14(b)(11)(iv)(B)	Structural engineering studies for flood protection to prevent washout	NA
§270.14(b)(11)(iv)(C)	Detailed description of procedures to remove hazardous waste to safety before flood reaches the waste	NA
§270.14(b)(11)(iv)(C)(1)	Timing of removal	NA
§270.14(b)(11)(iv)(C)(2)	Location to be moved to	NA
§270.14(b)(11)(iv)(C)(3)	Dedicated equipment and personnel to ensure removal	NA
§270.14(b)(11)(iv)(C)(4)	Potential for accidental discharge during movement	NA

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(11)(v)	Plan to show how the facility will be brought into compliance with 264.18(b)	NA
§270.14(b)(12)	Personnel training program	Attachment D ^a
§270.14(b)(13)	Closure and post-closure plans	2.9, Attachment F ^a
§264.112	Amendment of closure plan	Attachment F ^a (F.1.4)
§264.118	Post-closure plan; amendment of plan	Attachment F ^a
§264.178	Closure/containers	Attachment F
§264.197	Closure/tanks	NA
§264.228	Closure/post-closure/surface impoundments	NA
§264.258	Closure/post-closure/waste piles	NA
§264.280	Closure/post-closure/land treatment	NA
§264.310	Closure/post-closure/landfills	Attachments H, I, and J
§264.351	Closure/incinerators	NA
§264.601	Miscellaneous units	NA
§264.603	Post-closure care	Attachment F (F.1.9)
§270.14(b)(14)	Post-closure notices (264.119)	Attachment F ^a (F.1.9)
§270.14(b)(15)	Closure cost estimate (264.142)	Attachment F ^a (F.1.5)
	Financial assurance (264.143)	Attachment F ^a (F.1.5)
§270.14(b)(16)	Post-closure cost estimate (264.144)	Attachment F ^a (F.1.5)
	Post-closure care financial assurance (264.145)	Attachment F ^a (F.1.5)
§270.14(b)(17)	Liability insurance (264.147)	Attachment F ^a (F.1.5)
§270.14(b)(18)	Proof of financial coverage (264.149-150)	Attachment F ^a (F.1.5)
§270.14(b)(19)	Topographic map requirements	Attachment A ^{a, c} (A.4)
§270.14(b)(19)(i)	Map scale and date	Attachment A ^{a, c} (A.4)
§270.14(b)(19)(ii)	100-year floodplain	Attachment A ^a (A.4)
§270.14(b)(19)(iii)	Surface waters	Attachment A (A.4)
§270.14(b)(19)(iv)	Land use	Attachment A (A.4)
§270.14(b)(19)(v)	Wind rose	Attachment A (A.4)
§270.14(b)(19)(vi)	Map orientation	Attachment A ^{a, c} (A.4)

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.14(b)(19)(vii)	Legal boundaries	Attachment A ^{a, c} (A.4)
§270.14(b)(19)(viii)	Access controls	Attachment A (A.4)
§270.14(b)(19)(ix)	Wells	Attachment A (A.4)
§270.14(b)(19)(x)	Buildings	Attachment A (A.4)
	Treatment, storage, and disposal operations	Attachment A (A.4)
	Run-on/run-off control systems	2.10, Attachment A (A.4), Attachment G (G.1.4.2)
	Storm sewer systems	Attachment A ^a (A.4)
	Sanitary sewer systems	Attachment A ^a (A.4)
	Process sewer systems	Attachment A ^a (A.4)
	Loading/unloading areas	Attachment A (A.4)
	Fire control facilities	Attachment A ^a (A.4)
§270.14(b)(19)(xi)	Drainage barriers	2.10, Attachment A (A.4)
§270.14(b)(19)(xii)	Location of operational units	Attachment A (A.4)
§270.14(b)(20)	Other federal laws	3.0 ^a
§270.3(a)	Wild and Scenic Rivers Act	3.0 ^a
§270.3(b)	National Historic Preservation Act	3.0 ^a
§270.3(c)	Endangered Species Act	3.0 ^a
§270.3(d)	Costal Zone Management	3.0 ^a
§270.3(e)	Fish and Wildlife Coordination Act	3.0 ^a
§270.3(f)	Executive Orders	3.0 ^a
§270.14(b)(21)	Notice of extension approval for land disposal facilities	NA
§270.14(c)	Groundwater monitoring requirements	Attachment A ^a (A.5), Attachments H, I, and J
§270.14(c)(1)	Groundwater monitoring under 265.90 through 265.94	Attachments H, I, and J
§270.14(c)(2)	Identification of uppermost aquifer, groundwater flow rate and direction	Attachments H, I, and J
§270.14(c)(3)	A topographic map required under 270.14(b)(19) that identifies proposed point of compliance	Attachments H, I, and J
	Proposed location of groundwater	Attachments H, I, and J

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
	monitoring wells under 264.97.	
§270.14(c)(4)	Description of plume of contamination that has entered groundwater	Attachments H, I, and J
§270.14(c)(4)(i)	Extent of plume indicated on topographic map	Attachments H, I, and J
§270.14(c)(4)(ii)	Identification of constituents and concentration for Appendix IX of 264	Attachments H, I, and J
§270.14(c)(5)	Detailed plan and an engineering report describing proposed groundwater monitoring program under 264.97	Attachments H, I, and J
§270.14(c)(6)	No releases detected in groundwater (264.98)	Attachments H, I, and J
§270.14(c)(6)(i)	List of proposed indicator parameters	Attachments H, I, and J
§270.14(c)(6)(ii)	Proposed groundwater monitoring system	Attachments H, I, and J
§270.14(c)(6)(iii)	Background values for each proposed monitoring parameter	Attachments H, I, and J
§270.14(c)(6)(iv)	Description of proposed sampling, analyses and statistical comparisons to be used	Attachments H, I, and J
§270.14(c)(7)	Release detected at point of compliance requires corrective action under 264.100	Attachments H, I, and J
§270.14(d)	Information requirements for solid waste management units (SWMU)	4.0, Supplement 4-1
§270.14(d)(1)(i)	Location of SWMUs on topographic map	4.0, Supplement 4-1
§270.14(d)(1)(ii)	Types of SWMUs	4.0, Supplement 4-1
§270.14(d)(1)(iii)	Dimensions and descriptions of SWMUs	4.0, Supplement 4-1
§270.14(d)(1)(iv)	Dates of operation	4.0, Supplement 4-1
§270.14(d)(1)(v)	Waste types managed at SWMU	4.0, Supplement 4-1
§270.14(d)(2)	Information on releases from SWMUs	4.0, Supplement 4-1
§270.15	Containers	2.0, Attachment G
§270.16	Tank systems	NA
§270.16(a)	Written assessment and certification	NA
§270.16(b)	Capacity/dimensions	NA

Table 1-1

Regulatory References and Corresponding Permit Renewal Application Location

Regulatory Citation(s)	Description of Requirement	Location in this Document
§270.16(c)	Systems and controls	NA
§270.16(d)	Piping and process flow	NA
§270.16(e)	External corrosion protection	NA
§270.16(f)	Installation	NA
§270.16(g)	Secondary containment system	NA
§270.16(h)	Request for variance from secondary containment	NA
§270.16(i)	Spill prevention	NA
§270.16(j)	Ignitable, reactive, or incompatible wastes	NA

^a Requirement or information is also addressed in the most recent version of the "Los Alamos National Laboratory General Part B Permit Application," as appropriate.

^b NA = not applicable.

^c Some of the topographic map requirements are addressed in the most recent version of the "Los Alamos National Laboratory General Part A Permit Application."